

Milking goats can return more per hectare than dairy cows.

### Introduction

There are meat, mohair and milking goats.

There are about 80 breeds of goats. Descriptions are on the net. Search for 'goats + breeds'.

Sheep and goats are similar in some ways, so also read our 30 page chapter on Sheep.

Goat meat, despite its present lack of popularity in New Zealand, is eaten by more people in the world than sheep meat. It is lean and low in cholesterol.

Ancient goats were browsers and walkers so they liked to eat some of the following (NOT all) buds, flowers, seed heads and twigs. After eating the above they will eat grass and lastly clover. Modern goats, especially dairy ones will eat mixed pastures with the above plants. Oversow Tonic Plantain at 0.25 kg per hectare.

If the pasture is grazed short, intestinal parasites can be severe, however, Solminix (9 minerals) soluble mineral mix from DeLaval (some dealers call it Feedtech minerals) definitely reduces worm infestation and eliminates iodine deficiency problems, in all grazing animals. Fed to calves all their life on correctly limed and fertilised pastures has eliminated drenching for worms completely.

Out of 500 New Zealand farms tested, 99% had very low calcium, very acid soils, so earthworm numbers are a lot lower than they should be. After applying LimeMagPlus to most soils earthworm numbers increase followed by clovers and pasture, and profit. Some farms don't have Caliginosa earthworms (the best pasture ones) so should get some, and Terrestrus large deep digging ones. Read Earthworms.

Solminix must be supplied in the drinking water to reduce parasites and make animals healthier in all ways. Currently, no other mineral mix does this as well.

If pasture is unbalanced in mineral levels or too high in potassium, goats can reject it or eat less, so milk production decreases. See Minerals > Potassium to see how high levels kill clovers.

Grazing other animals before and/or after goats improves their health and speed of growth. Goats and cattle can be complimentary in their diets. Under extensive grazing it is possible to add one/cattle beast and not lower the stocking rate much. This will give extra income with little extra time, but goats do require more care and attention than cattle. Most cattle fences can be adapted to goats by adding a strategically placed live wire at about two thirds the height of goat. Goats and cattle have different parasites so they help reduce each other's parasite loads. The large goat meat market gives an opportunity to add to cattle incomes.

#### Goats

- Have thin skins so feel the heat and cold more, so need shelter.
- Are hard to move into rain or into a head wind.
- Are easiest to move in the afternoon after having eaten, drunk and rested.
- Like to be in their family group and in familiar territory.
- Can ring-bark trees.
- Can create foot paths which, on hills can erode. Small paddocks and frequent moving reduce footpaths.
- Don't like buttercup weeds.

Goats kid after five months and cycle every 21 days. They can be mated as young as seven months for seasonal farms calving every year in spring, but they are best left until they have grown more if not calving every spring for seasonal milk production.

If feral (wild) goats are being used to clear weeds, scrub, brush, etc., move them regularly then they will be easy to manage. Don't expect them to eat out all the growth in one grazing, let them do it over several rounds (rotations or moves).

Domesticated goats, especially dairy goats are easy to handle and come to call, but do like to go to

feed, so have something in the parlor. They like roughage, so dust-free hay, straw, or good silage, so these can be used if grain is not needed to be fed. When trees have to be pruned, taking the branches to the goats and calling them teaches them to come. Be sure that the branches are not poisonous. Get the names of poisonous plants in your area and learn to identify them.

### **Pastures**

Pasture with a lot of buttercup and not much grass or clover will usually need four tonnes of LimeMagPlus per hectare, and oversowing, followed by more after six months and again a year later. See Elements > Calcium.

Goats don't eat much clover which is a pity because it is far more nutritious than grass. Calves and lambs grow much faster on clover based pastures than on ryegrass only. Clover is needed in pastures to give the grass nitrogen to grow, and to cover the bare patches which otherwise grow weeds. Tonic plantain and grasses that goats prefer such as cocksfoot and VJ Prairie grass when available, or grow your own need to be grown. I have grown it since 1990. Send a self addressed and stamped envelope with \$20 in it, then grow your own. Bealey NEA2 and Trojan NEA2 are preferred and better. Red clovers and new large leafed white clovers should be sown with Tahora 2. It makes more nitrogen than any other clover. See Pastures.

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Unpalatable pasture is a problem even when potassium is not high.

Our son-in-law and daughter, who bought the neighbouring farm for their milking goats (he and our daughter did very well milking 200 and doing other jobs), told me that after applying LimeMagPlus and fertilising with the marine rock P Sechura mix I recommended based on a pasture test, their goats stayed in the paddock on the new land and ate more only a month after the fertiliser went on. Previously they would not eat and wanted to come to their home farm and were hungry. Obviously when they eat more they produce more.

Their milk had been dropping daily in the very hot summer of 1999, but didn't drop at all in the month after they grazed the correctly fertilised pasture using the best reactive phosphate and trace elements. Sechura is best followed closely by Gafsa, which is cheaper, so is what I use and recommend.

Grazing oxalis has poisoned goats.

### **Milking Goats**

It is said that, That goat milk can't be purchased in our supermarkets, while that from Australia can. This shows that there is scope for NZ farmers to produce more milk, especially because the payout to goat farmers is excellent

When a dairy farm is too small to be profitable with dairy cows, dairy goats could be considered.

Goat milk can fetch three times the price of cow's milk, but marketing must be in place.

Goat milk has a higher vitamin and mineral content and smaller fat globules so is easier to digest. It is more like human milk, so suits some babies and people who are allergic to cows milk.

Goat milk cheese is comparatively easy to make and can increase the net income.

The best milking breed for most conditions is the Saanen originating in Switzerland. There are good and bad ones so production can vary from one litre a day to nine litres a day, obviously depending on the feed given.

There are also the lower producing British Alpines, Anglo Nubians (Middle East) and Toggenbergs (Switzerland).

Top individual goats on pasture with a little maize grain can produce 11 litres/day. Our son-in-law and daughter's top ones averaged 7 litres a day.

They are paid on milk solids (fat and protein) at NZ\$10/kg. MS is about 14% (maximum 16%) in spring and 11% now so this equals NZ\$1.40 and \$1.10 per litre now.

All were seasonal so kidded in late winter and go dry late autumn.

They feed a little maize grain in the dairy. Their goats ate less maize after being on the correctly

fertilised pasture.

Another goat farmer says their goats are grazing their pastures lower since correct fertilising and they are having their best season ever, but it was the best spring and summer for years.

When will all farmers and researchers learn about balanced fertilising?

## **Fencing**

Fencing is the biggest job. Goats can climb over non-electrified fences, but one electrified offset wire can stop them. They can tell when the electric fence is off. They are not controlled by low-power units. The fence must maintain close to 6,000 volts so a 12 joule, preferably a 15 joule unit is necessary with a perfect earth system.

Cattle are seldom a problem to control, but with sheep, goats, pigs and wild dogs the bottom wire on boundary fences should be no more than 15 cm (6") from the ground with four wires above. Internal subdivision fences can be one or two wires with close to 6,000 volts.

Prior to high power fencing netting fencing was used extensively for goats, but they can get their horns caught in netting and can die there. An offset electrified wire can reduce this. Netting must be no more than 8 cm from the ground or some will crawl under it. Achieving this in rough uneven ground is difficult or impossible, so an electrified offset wire 25 cm above the ground will help.

The design of electric fencing is included in most power fencing manuals. Quiet milking goats that are moved twice a day and well fed will stay behind two live wires, while less frequently handled ones may need three or four electrified wires.

In prolonged dry soil conditions the wires may have to alternate between live and earthed (grounded).

Jumpers and persistent ones that get out may have to be culled. They may be only 1% of the herd, or fewer if the power is high.

Some people fit yokes on the escapers, but better fencing and higher power is easier.

Goats are more intelligent than most grazing animals and soon find out if the fence is not electrified. The long hair on the necks of some goats acts as a sensor to warn them. Goats and deer usually notice if one gets a shock so the others keep away. Cattle and sheep don't. If one goat gets through others often follow. Cattle are less inclined to follow one escaper.

The voltage should be kept above 4,000 volts on the whole fence. The very end of a fence will have compressed voltage because the pulse has no where to go so the pressure (voltage is pressure) builds up.

A few goats are impossible to move with dogs, so should be culled if dogs have to be used as is usually necessary with large numbers in big paddocks.

Read more about fencing in [GrazingInfo > Fencing](#). Fencing Part 2 has information under the subheading Goats.

The alternative is to have just one goat and tether it on a long chain so it can come and go from the shed.

Goats like companionship so there are people campaigning for not allowing just one to be kept. See the Rules.

## **Sheds**

A shed for shelter will need to have the floor and surrounding soil built up with soil so that heavy rain doesn't run in, and then spread dry grass bedding on top of it, or better still a floor made of wood with a slope to the entrance for easy cleaning.

The entrance area outside will need to be built up and slope away so that it doesn't get muddy. Goats will come and go from their shed many times a day for shade in summer and for shelter in rainy weather.

## **Shelter**

Sheep have a fat layer under their skin and wool, while goats have a very thin fat layer so need shelter in the form of trees and/or buildings in cold weather. They don't like wind, rain or cold. If they are grazed on pastures without shelter (hedges, etc.) they will produce half as much as when in buildings, but if shelter is provided in all paddocks, the difference will not be so great. Hedges should be grown around every paddock. Pampas grass is a good shelter because it grows quickly, is dense, is

not killed if grazed, provides the goats with roughage and is cheap to buy. Two or three high power fence wires is enough to protect the pampas, but still allow the goats to eat it and stop it spreading or becoming too wide. It is good roughage and a drought reserve for them. Allow at least one metre width between fence wires, and not more than 1.5 m. If you don't want it to seed and spread, plant only one sex, and make sure there are no opposite sex plants in the area.

Pampas won't grow in very cold climates, but there may be something similar which can be used. More information on pampas is on the Internet. Just look up pampas.

In really cold areas goats should be housed in winter and suitable hedges should be grown around paddocks.

## Health

As with other animals, goats have diseases, so must be farmed carefully and when buying stock be very careful to avoid bringing in infections such as viral and ones like Johne's disease. Use a vet to check before purchasing and have a quarantine paddock. See Animal Health.

Although affectionate, goats are driven more by their stomach than anything else so milking ones usually need grain fed in the parlor to encourage them in. The high price received for goat milk justifies feeding grain.

Goats can get severe digestive problems if too much grain or concentrates are fed, especially if fed only once a day. The maximum amount to feed depends on their size, the type of grain and the quality of the other feeds. It is best fed after they've had a fill of pasture.

Pasture mineral levels must be analysed and fertiliser applied to balance them as below.

It is not economical to raise iodine levels in pastures by fertilising because iodine is so expensive and it leaches quickly, so feeding a good soluble mineral mix with it is the best solution.

Many of the problems that grazing goat farmers have are because they won't analyse pastures and fertilise accordingly, and won't supply soluble minerals in the drinking water. They are not costs, but are investments, giving more than 100% return on the cost each year.

Some goats are more susceptible to health problems than cattle so must have better care. While they will eat many weeds and even paper, they like clean unpolluted pasture and feed.

Goats need more tender loving care than cows or sheep so don't farm them unless you are prepared to spend considerable time on animal care. They are affectionate animals and respond to attention.

Hooves have to be watched and trimmed and hoof mats with zinc or copper sulphate should be used. Copper sulphate is used for controlling infections. Zinc sulphate is for hardening hooves and for controlling mild infections. Place it in the exit race for the animals to become accustomed to walking over it. After a few days, when trained, move it to the entrance immediately before the parlor, yard or barn. This allows the product to soak into the hooves during milking, rather than being lost in mud or pasture. It must be on a smooth surface of concrete or marine plywood, not on a rough surface and not on soil.

At the end of each milking or day, wash and hang up to dry. If using copper in any form, don't hang the hoof mats over galvanised pipes or rails because the copper will corrode them.

The secret of hoof mats is the tough permeable fabric which allows the transfer of disinfectant to and from the core which holds the liquid. The strong dense core holds the liquid and hydraulic action squirts it into the hoof.

If a hoof bath is used, change the bath and wash it out at least weekly. Many get built and then not used because -

1. They don't achieve good results so farmers stop using them.
2. They get dirty and are hard to clean.
3. Users don't clean and renew the product as often as necessary so they don't achieve results because the product loses its effectiveness.
4. They hold a lot of liquid which requires more product.
5. They are usually in the open so can be diluted with rain.
6. They can freeze.
7. Animals don't like them.

Foot or hoof mats prevent and/or overcome some of the above problems.

For more information see <http://www.sweetmans.co.nz> and [www.shoof.co.nz](http://www.shoof.co.nz)

Goats suffer iodine deficiency before other animals unless it is adequate. A deficiency can cause kids to have swollen areas on the throats if well fed. It is usually on kids getting a lot of milk and can go down once they are weaned. The other thing it could be is iodine. You can test this by painting a small amount of iodine under the tail on the bare skin. If it disappears in a day then it is iodine deficiency. If it is still there after a couple days it is not an iodine deficiency.

### **Milk fever & bloat**

Goats don't suffer much milk fever or bloat.

### **Internal parasites**

Goats are very susceptible to these so need managing to lessen infection, need constant monitoring and treatment. Egg counts in the dung is a good way of monitoring worm numbers. In nature goats were browsers eating shrubs and tree branches which would be completely worm free and full of minerals, so goats developed no resistance to worms. On pasture without scrub or brush they need minerals and frequent drenching.

Goats like browsing in brush, or if on pasture, long grass, both of which reduce internal parasite infestation.

They are very prone to worms, so normally have to be drenched frequently. When the goats arrive, they should be kept well away from their future pastures and a vet should be asked to treat them for all parasites, then after they have excreted them over two days in a quarantine paddock, they can be moved to their grazing areas.

Goats do better on mixed pastures that are longer, where their browsing grazing habit can be used. If they are not forced to graze too close to the ground they will have fewer internal parasites.

Goats and sheep suffer similar worms that cattle don't.

Damp pasture tends to have a higher parasite level than dry pasture that is exposed to the sun.

Goats suffer badly from internal parasites and are selective grazers. The results in sick goats and untidy pastures, especially if buttercup\* is present because they don't like it and some varieties, and too much of any, can be toxic to them. Cattle on the same farm can be made to graze pastures short every month or two. This helps keep them fresh and reduces the internal parasite population in goats. As with sheep, the more cattle, the healthier the sheep and goats.

If farming both, graze the goats ahead of the cattle. This will allow the goats to graze the longer pasture and not consume so many internal parasites which are at the base of some pastures. Goats tend to avoid clovers which the cattle will eat.

Correct LimeMagPlus at the correct rate eliminates buttercup plants in grazed pastures because it doesn't like lime, and buttercup plants become palatable, so cows eat it with pasture. We got rid of buttercup plants on our two farms and on clients' farms without spraying, while lime hungry neighbours's farms were covered in it as shown here next to our Piako Road, Gordonton farm on the left and below on our Greenhill Road, Puketaha farm in the foreground.



### **Mastitis**

Goats are not as susceptible to mastitis as cows. See Dairying.

Our son-in-law and daughter, Ian & Sue Dobbs in the Waikato said that they had only one mastitis in three years in their 60 goat herd milked by Susan after changing to a new DeLaval electronic milking machine.

She wrote, “Our milking goats grazing evenly on correctly fertilised pastures and fed Solminix, had a healthier look than ones on an adjacent farm that didn’t get minerals. Milk production and hoof condition were better in our Solminix supplemented goats, and parasite problems were less. The difference could be seen from several hundred metres, so the neighbour asked me to consult for them. I was able to say, join <http://www.grazinginfo.com>. He did and was very grateful. We later bought his farm.

Ian also share-milked a 260 goat herd nearby and had only 2 clinicals and 15 sub-clinicals in three years.

As soon as the cups came off, they were teat sprayed thoroughly.

When using an older different brand of milking machine it sometimes caused blue teats, and the goats would repeatedly kick the cups off, they had mastitis, slower milking and low milk production.

A new DeLaval with the special soft liners made for goats and avoiding over-milking like the plague, improved everything.

When milking machines are correct, let-down is faster, there are fewer double let-downs, almost no fidgeting and kicking clusters off, and no blue teats or ring marks. With a good setup, one person can operate 20 clusters in a double (swing over) herringbone.

When treating for mastitis don’t push the tube end right into the teat. Get a thin product and push the antibiotic just through the orifice into the teat bottom, then work it up into the udder.

### **Boer goats**

These are bigger than other goats so if crossed with others should breed larger ones and have hybrid vigour which could be good, because the small number of goats in many countries means that they can become inbred.

They love roughage so hay every day helps, although would not be required in dry summers and not essential at any time. They also do much better and have fewer worm problems when given soluble minerals in their drinking water. If they don’t get iodine they can have still-born kids and ones without hair.

Yes, smaller animals are easier on pastures.

I also looked up Boer goats on the Internet and found dozens of pages on them and ones for sale in USA. You should be on the net. You’d learn a lot, especially on discussion groups.

In recent years, the Boer goat has spread consideration around the world and has become the main component in many goat improvement programs.

The ancestry of the Boer goat is obscure. Several researchers agree that the predecessors of the Boer goat probably came from the southwest migrating Bantu tribes with a possible infusion of Indian and European goat bloodlines. The present-day, improved Boer Goat has adapted very well to a variety of ecosystems in its native South Africa, ranging from hot, dry semi-deserts to humid, tropical bush, and in other countries.

The Boer goat emerged in the early 20th Century when ranchers in the Eastern Cape of South Africa started breeding for a meat-type goat with good conformation, high growth rate, fertility, short white hair, and red markings on the head and neck. The South African Boer Goat Breeders' Association was founded in 1959 to establish standards for the emerging breed. Since 1970 the Boer goat has been incorporated into the National Mutton Sheep and Goat Performance testing scheme.

### **History**

The Boer goat name is derived from the Dutch word "Boer" meaning farmer. Males average 80 lb at 3 months of age; 160 lb at 8 months; 222 lb at 12 months; 257 lb at 18 months; and 313 lb at 25 months. Females averaged 63 lb at 3 months; 139 lb at 12 months; 165 lb at 18 months; 220 lb at 24 months.

The Boer goat is capable of attaining an average daily gain of over 400 grams daily.

The Boer goats dressing weight percentage is over 50%. Compared to South African sheep, the Boer goat had the higher dressing percentage with carcasses having more total tissue in the fore arm, neck and central trunk, and less tissue in the hind limb.

South African scientists concluded that “Boer goats seem to yield a carcass superior to Angora, dairy and other meat goats and that fat content and muscling of Boer goat carcasses compared favourably with those of specialized mutton producing breeds.”

### **Growth, meat & carcass characteristics**

The Boer goat is a large framed animal with mature weights between 260-380 lb for males and 210-265 lb for females. The potential for growth is outstanding. Under intensive perform good meat goat should also be fecund and prolific. More kids born per doe will result in greater profit margins for the producer. The ovulation rate for Boer goats ranges from 1 to 4 eggs per doe with a mean of 1.7 (plus or minus 0.9). A normal kidding rate of 200% is common for the Boer goat. This is higher than most other goat breeds, thus the Boer goat can be considered a prolific breed. This conclusion was also reached in New Zealand and Australia, based on the number of super ovulated embryos (9) harvested from the Boer goat donor programme.

The Boer goat reaches puberty early, usually about 6 months of age for males and 10 to 12 months for first-mating females. The Boer goat has an extended breeding season and it is possible to achieve 3 kiddings every 2 years.

Boer goats are good milkers, which enables them to successfully raise their multiple offspring with excellent weight gains and with little pre-weaning mortality. A South African study indicated that lactation length was 120 to 140 days for Boer goats and their yield was about half that of South African Saanen, which had a lactation length of 278 days. Boer goats had a higher butterfat (5.6%), total solids (15.7%), and lactose (61) than any other goat breeds in South Africa. It has been postulated that for the Boer goat to attain its high pre-weaning average daily gain, the doe must produce up to 5.5 lb/day.

### **Reproduction**

A meat goat has the necessary characteristics lacking in our Spanish meat type goats. These characteristics are large size, uniform carcass, fast growth rate, fecund and prolific, long breeding season, good browser, good milker and excellent mothers for profitable meat goat production. Because of its large frame and faster growth rate, it will need more nutrients to maintain and support optimum growth rates.

### **Sable goats**

These are dark coloured Saanen - throw backs, like red Friesians.

### **Cattle with goats**

Goats suffer badly from internal parasites and are selective grazers. The results is sick goats and untidy pastures, especially if buttercup is present because they don't like it and some varieties and two much of any can be toxic to them. Cattle on the same farm can be made to graze pastures short every month or two. This helps keep them fresh and reduces the parasite population. As with sheep, the more cattle on a farm, the healthier the sheep or goats will be.

If farming both, graze the goats ahead of the cattle. This will allow the goats to graze the longer pasture and not consume so many internal parasites which are always at the base of pastures. Goats tend to avoid clovers which the cattle will eat.

### **Tethering goats on roadsides**

Goats can be used to keep farm roadsides grazed and free of weeds. What some do is use a wide dog collar because it is adjustable and comfortable. Then use a dog chain with swivels at each end between the collar and a length of wire that is tied to posts at each end just above ground level. A stop (use a power fencing joint clamp) is put at each end of the wire at a point far enough from the end to prevent the goat going around post and becoming entangled. Make sure there are no obstructions like power poles to entangle the chain and goat.

A kennel (shelter) must be provided and be well anchored down so it can't blow over in the wind. Water, with a cover to stop it getting too hot, should be placed near the centre of the wire. If on a roadside in New Zealand, the wire can be left there and the goat moved to another wire.

Lock or tie tightly all the connections so that no one without tools can't steal or let it off.

Goats like company. Some people are wanting rules that a single goat must have the company of another one.

### **Goat Odour**

Goat buck meat doesn't smell, but during slaughter don't allow the outside of the skin to touch the meat.

The belief that running a buck with does causes a goat flavour in the milk is incorrect. Some do so with no problems. If there is an odour problem, look elsewhere.

### **Further Reading**

<http://www.ansi.okstate.edu/breeds/goats/>